APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/474,588	12/29/1999	BALWINDER S. SAMRA	17207-00005	2447

7590 01/15/2004	EXAMINER	
JOHN S BEULICK	REAGAN, JAMES A	
ARMSTRONG TEARSDALE LLP		
ONE METROPOLITAN SQUARE	ART UNIT	PAPER NUMBER
SUITE 2600	3621	
ST LOUIS, MO 631022740		

DATE MAILED: 01/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Applicati n N .	cant(s)
Office Action Summary	09/474,588	SAMRA ET AL.
	Examiner	Art Unit	
	James A. Reagan	3621	

-- The MAILING DATE of this c mmunication appears on the cover sheet with the c rresp ndence address --

Peri d for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>06 November 2003</u>.

2a)☒ This action is **FINAL.** 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disp sition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

    a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.

4) ☐ Interview Summary (PTO-413) Paper No(s). _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other:

DETAILED ACTION

Status of Claims

1.   This action is in reply to the request for consideration received on 06 November
2003.

2.   Claims 1-21 have been examined.

Response to Arguments

3.   Applicant's arguments received on 06 November 2003 have been fully
considered but they are not persuasive. Referring to the previous Office action,
Examiner has cited relevant portions of the references as a means to illustrate
the systems as taught by the prior art. As a means of providing further
clarification as to what is taught by the references used in the first Office action,
Examiner has expanded the teachings for comprehensibility while maintaining
the same grounds of rejection of the claims, except as noted above in the section
labeled "Status of Claims." This information is intended to assist in illuminating
the teachings of the references while providing evidence that establishes further
support for the rejections of the claims.

With regard to the limitations of claims 1, 10, and 19, Applicant argues that
neither Melchione, Pham, Kroenke, or Sheppard taken alone or in combination,
disclose the claimed invention. It appears that the Applicant is attacking the
references individually, instead of in combination as intended and shown in the
rejections below. The Examiner respectfully disagrees with the Applicant's

assertions, and points to the rejections below, where Melchione disclose

marketing research and recordation techniques, Pham discloses using an OLAP

tool, Kroenke discloses techniques for utilizing the OLAP tool as well as

Relational database practices, and Sheppard discloses customer behavior

propensity models. The combination, as shown below discloses the limitations

as cited by the Applicant.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1-5, 9-13, 15, and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Melchione et al., (US 5,930,764) in view of Pham et al., (US

5,970,482), and further in view of Kroenke (Database Processing: Fundamentals,

Design, and Implementation, (c) 1998).

Examiner's note: Examiner has pointed out particular references contained in

the prior art of record in the body of this action for the convenience of the

Applicant. Although the specified citations are representative of the teachings in

the art and are applied to the specific limitations within the individual claim, other

passages and figures may apply. Applicant, in preparing the response, should

consider fully the *entire* reference as potentially teaching all or part of the claimed

invention, as well as the context of the passage as taught by the prior art or

disclosed by the examiner.

Claim 1:

> With regard to the limitation of:

> o   *building models of predicted customer profiles,* Melchione discloses
>
>   customer profiles based on a demographic database (column 5,
>
>   lines 1-2).

> o   *generating scores for prospective customer in the database based*
>
>   *on the predicted customer profiles,* Melchione discloses a scoring
>
>   system, models developed from customer profiles, predictions
>
>   based on the customer profiles (column 42 line 51 to column 43 line
>
>   16).

Melchione does not specifically disclose *embedding the models within an*

online analytical processing tool.   Pham, however, in column 13, line 6 does

discloses using OLAP, and in lines 39-42 also discloses building a knowledge

model to predict behavior. It would have been obvious to one of ordinary skill in

the art at the time of the invention to combine the Melchione scoring system with

Pham's OLAP system to derive the modeling features of the claimed invention.

Inherently, predictive models are constructed to transform accumulated data in to

knowledge models to provide better customer service, target potential customers,

and to forecast changes in the account status of a current customer. Accurately

mining and modeling consumer data enhances an organization's capability to maximize profits and target new business.

In addition, Melchione does not specifically disclose that *the online analytical processing tool generates the scores by combining the models in the determined sequential order.* Pham, however, in column 32, lines 29-32, discloses, "...The scoring level 2934 indicates the best candidates profiled in the results. Those scored as best may include candidates in several profiles..." H ere Pham indicates combining different profiles i.e. models. It would have been obvious to one of ordinary skill in the art at the time of the invention to build a customer profile and generate scores according to the profile to predict customer behavior because predicting customer behavior increases the likelihood of gaining new customers, thereby increasing profits.

Neither Melchione nor Pham specifically disclose:

- o   *using the online analytical processing tool and the customer demographic data to analyze a combination of the models;*

- o   *determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool;*

- o   *using the online analytical processing tool to combine the models in the determined sequential order.*

However, Kroenke, on pages 386-392 discuss OLAP tools, and discloses multi-dimensional slices i.e. models, organizing i.e. sequencing, the data according to a specified ranking, and combining the models into various view definitions to derive analytical conclusions. Since OLAP is based on the one-dimensional relational database, sequencing of records based on one or many fields would be obvious to one of ordinary skill in the art. Applying the same sequencing steps to a multi-dimensional OLAP tool would also be obvious to one of ordinary skill in the database arts since ordering and sequencing information in a database to derive specific statistical data is a fundamental function of databases. Applying the same functionality, as shown by Kroenke, to a multidimensional database enhances the power of the relational database. Examples of multiple models within a hyperdimensional database as well as sample code are shown in Figures 14-11 to 14-17 and related text.

Claims 2 and 15:

Melchione discloses a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, which utilizes customer profiles and a scoring system to predict customer activity. Melchione does not disclose *generating scores for a prospective customer in the database based on the predicted customer profiles further comprises the step of using the online analytical processing tool that combines models in the form of a multidimensional structure*. Pham, however, in column 13, line 6 does discloses using OLAP, and in lines 39-42 also discloses

building a knowledge model to predict behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Melchione scoring system with Pham's OLAP system to derive the modeling features of the claimed invention. Inherently, predictive models are constructed to transform accumulated data in to knowledge models to provide better customer service, target potential customers, and to forecast changes in the account status of a current customer. Accurately mining and modeling consumer data enhances an organization's capability to maximize profits and target new business.

Claim 3:

Melchione discloses a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, which utilizes customer profiles and a scoring system to predict customer activity. Melchione also discloses building models of predicted customer profiles with dimensions comprising risk, attrition, and profitability (predicting when a customer will change banks or open a new account; column 5, lines 31-42). Melchione does not specifically disclose *generating scores for a prospective customer in the database based on the predicted customer profiles further comprises the step of using the online analytical processing tool with dimensions comprising risk, attrition, and profitability.* Pham, however, in column 13, line 6 does discloses using OLAP, and in lines 39-42 also discloses building a knowledge model to predict behavior. It would have been obvious to one of

ordinary skill in the art at the time of the invention to combine the Melchione

scoring system with Pham's OLAP system to derive the modeling features of the

claimed invention. Inherently, predictive models are constructed to transform

accumulated data in to knowledge models to provide better customer service,

target potential customers, and to forecast changes in the account status of a

current customer. Accurately mining and modeling consumer data enhances an

organization's capability to maximize profits and target new business.

Claim 4:

With regard to the limitation of *using a propensity model to supply*

predicted answers to questions, Melchione discloses propensity models that

address the likelihood of a customer meeting a certain criteria such as having a

child (column 43, lines 5-16). It would have been obvious to one of ordinary skill

in the art at the time of the invention to build a propensity model to predict

customer behavior because predicting customer behavior increases the

likelihood of gaining new customers, thereby increasing profits.

Claim 5:

With regard to the limitation of *using a propensity model to determine how*

likely a customer is to close an account early, Melchione discloses predicting

when a customer will "overcome inertia" and change banks or open new

accounts (column 5, lines 31-42). Melchione does not specifically disclose that

changing banks also includes closing an account. However, changing banks

inherently implies dissatisfaction with the current bank and thus would also

inherently imply closing an existing account in favor of a new one at another source. It would have been obvious to one of ordinary skill in the art at the time of the invention to use a propensity model to predict customers leaving a bank in favor of a new one because predicting losses in revenue provides an opportunity to prevent the loss before it occurs.

Claim 9:

With regard to the limitation of *generating scores for a prospective customer in the database based on the predicted customer profiles further comprises the step of guiding a user to optimize marketing campaign selections based on criteria from a customer database,* Melchione discloses optimizing the use of marketing resources (column 10, lines 6-8). Melchione does not specifically disclose that the optimization is done for the benefit of a user or that the marketing resources are criteria from the customer database. However, it is inherent that any use of the database would be for the benefit of a user, and optimizing a marketing campaign would benefit any users associated with the campaign. In addition, it is inherently assumed that the marketing resources are equivalently the criteria maintained on the customer database that are used to predict customer behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to optimize data on a customer database for the benefit of the users in a marketing campaign because correctly utilizing data increases efficiency and profits.

Claim 10:

With regard to the limitation of *a customer database,* Melchione discloses

a customer information database (title). With regard to the limitation of *graphical*

user interface for entering marketing campaign data, Melchione discloses a

graphical interface (column 6, lines 43-46). Melchione does not specifically

disclose that the GUI is used to enter marketing campaign data. However, since

the data is maintained on a computer-controlled database, it is inherent that

some form of graphical user interface be used to enter the data into the

database. It would have been obvious to one of ordinary skill in the art at the

time of the invention to provide a user interface to input data into the database

because this is an easy and efficient way to enter data.

In addition, Melchione does not specifically disclose *models of predicted*

customer profiles based upon historic data that are embedded on an online

analytical processing tool said online analytical processing tool configured to

combine said models Pham, however, in column 13, line 6 does discloses using

OLAP, and in lines 39-42 also discloses building a knowledge model to predict

behavior. It would have been obvious to one of ordinary skill in the art at the time

of the invention to combine the Melchione scoring system with Pham's OLAP

system to derive the modeling features of the claimed invention. Inherently,

predictive models are constructed to transform accumulated data in to knowledge

models to provide better customer service, target potential customers, and to

forecast changes in the account status of a current customer. Accurately mining

and modeling consumer data enhances an organization's capability to maximize profits and target new business. Furthermore, Pham, in column 32, lines 29-32, discloses, "...The scoring level 2934 indicates the best candidates profiled in the results. Those scored as best may include candidates in several profiles..." here Pham indicates combining different profiles i.e. models. It would have been obvious to one of ordinary skill in the art at the time of the invention to build a customer profile and generate scores according to the profile to predict customer behavior because predicting customer behavior increases the likelihood of gaining new customers, thereby increasing profits.

Neither Melchione nor Pham specifically disclose:

- *using the online analytical processing tool and the customer demographic data to analyze a combination of the models;*

- *determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool;*

- *using the online analytical processing tool to combine the models in the determined sequential order.*

However, Kroenke, on pages 386-392 discuss OLAP tools, and discloses multi-dimensional slices i.e. models, organizing i.e. sequencing, the data according to a specified ranking, and combining the models into various view definitions to derive analytical conclusions. Since OLAP is based on the one-

dimensional relational database, sequencing of records based on one or many fields would be obvious to one of ordinary skill in the art. Applying the same sequencing steps to a multi-dimensional OLAP tool would also be obvious to one of ordinary skill in the database arts since ordering and sequencing information in a database to derive specific statistical data is a fundamental function of databases. Applying the same functionality, as shown by Kroenke, to a multidimensional database enhances the power of the relational database. Examples of multiple models within a hyperdimensional database as well as sample code are shown in Figures 14-11 to 14-17 and related text.

Claim 11:

Melchione discloses a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, which utilizes customer profiles and a scoring system to predict customer activity. Melchione does not disclose *models are embedded in said online analytical processing tool that takes the form of a multidimensional structure* Pham, however, in column 13, line 6 does discloses using OLAP, and in lines 39-42 also discloses building a knowledge model to predict behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Melchione scoring system with Pham's OLAP system to derive the modeling features of the claimed invention. Inherently, predictive models are constructed to transform accumulated data in to knowledge models to provide better customer service, target potential customers, and to forecast

changes in the account status of a current customer. Accurately mining and

modeling consumer data enhances an organization's capability to maximize

profits and target new business.

Claim 12:

With regard to the limitation of *models of predicted customer profiles*

further comprise a propensity model used to supply predicted answers to

questions, Melchione discloses propensity models that address the likelihood of

a customer meeting a certain criteria such as having a child (column 43, lines 5-

16). It would have been obvious to one of ordinary skill in the art at the time of

the invention to build a propensity model to predict customer behavior because

predicting customer behavior increases the likelihood of gaining new customers,

thereby increasing profits.

Claim 13:

With regard to the limitation of *propensity model determines how likely a*

customer is to close an account early, Melchione discloses predicting when a

customer will "overcome inertia" and change banks or open new accounts

(column 5, lines 31-42). Melchione does not specifically disclose that changing

banks also includes closing an account. However, changing banks inherently

implies dissatisfaction with the current bank and thus would also inherently imply

closing an existing account in favor of a new one at another source. It would

have been obvious to one of ordinary skill in the art at the time of the invention to

use a propensity model to predict customers leaving a bank in favor of a new one

because predicting losses in revenue provides an opportunity to prevent the loss before it occurs.

Claim 18:

With regard to the limitation of *guide a user to optimize marketing campaign selections based on criteria from a customer database,* Melchione discloses optimizing the use of marketing resources (column 10, lines 6-8). Melchione does not specifically disclose that the optimization is done for the benefit of a user or that the marketing resources are criteria from the customer database. However, it is inherent that any use of the database would be for the benefit of a user, and optimizing a marketing campaign would benefit any users associated with the campaign. In addition, it is inherently assumed that the marketing resources are equivalently the criteria maintained on the customer database that are used to predict customer behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to optimize data on a customer database for the benefit of the users in a marketing campaign because correctly utilizing data increases efficiency and profits.

6.   Claims 6-8, 14, 16, 17, and 19-21 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Melchione/Pham/Kroenke in view of Sheppard, (US

6,026,397).

Claims 6 and 14:

Melchione/Pham/Kroenke disclose a sales process support system and

method for identifying sales targets using a centralized database to improve

marketing success, customer profiles, a scoring system to predict customer

activity, and propensity models.   Melchione/Pham/Kroenke do not disclose

determining *how likely a customer is to default on an account*.   Sheppard,

however, in column 2, lines 44-51 does discloses the probability of attrition i.e.

default. It would have been obvious to one of ordinary skill in the art at the time

of the invention to combine the Melchione/Pham/Kroenke predicting and scoring

system with Sheppard's probability of default to derive the modeling features of

the claimed invention. Inherently, predictive models are constructed to transform

accumulated data in to knowledge models to provide better customer service,

target potential customers, and to forecast changes in the account status of a

current customer. Accurately predicting negative behavior in an existing account

enables the account manager to prepare and possibly avoid detrimental activities

and ensures profitability.

Claims 7 and 16:

Melchione/Pham/Kroenke disclose a sales process support system and

method for identifying sales targets using a centralized database to improve

marketing success, customer profiles, a scoring system to predict customer activity, and propensity models. Melchione/Pham/Kroenke do not disclose *a behavior prediction model to estimate risk*. Sheppard, however, in column 2, lines 44-51 does discloses predicting customer behavior, profitability and associated risks. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Melchione/Pham/Kroenke predicting and scoring system with Sheppard's behavior propensity models derive the prediction features of the claimed invention. Inherently, predictive models are constructed to transform accumulated data in to knowledge models to provide better customer service, target potential customers, and to forecast changes in the account status of a current customer. Accurately predicting negative behavior in an existing account enables the account manager to prepare and possibly avoid detrimental activities and ensures profitability by providing a technical advantage.

Claims 8 and 17:

Melchione/Pham/Kroenke disclose a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, customer profiles, a scoring system to predict customer activity, and propensity models. Melchione/Pham/Kroenke do not disclose *using a client prospecting model for business development*. Sheppard, however, in column 2, lines 28-38 does discloses predicting and identifying customers, and developing profiles based on demographics and behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine

the Melchione/Pham/Kroenke predicting and scoring system with Sheppard's lead-forecasting models to derive the prediction features of the claimed invention. Inherently, identifying and developing leads is a primary concern when designing a marketing program that specifically targets new business clients and customers based on a demographic.

Claim 19:

With regard to the limitation of *building models of predicted customer profiles,* Melchione discloses customer profiles based on a demographic database (column 5, lines 1-2).

Melchione does not specifically disclose *embedding the models within an online analytical processing tool.* Pham, however, in column 13, line 6 does discloses using OLAP, and in lines 39-42 also discloses building a knowledge model to predict behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Melchione scoring system with Pham's OLAP system to derive the modeling features of the claimed invention. Inherently, predictive models are constructed to transform accumulated data in to knowledge models to provide better customer service, target potential customers, and to forecast changes in the account status of a current customer. Accurately mining and modeling consumer data enhances an organization's capability to maximize profits and target new business.

In addition, Melchione discloses a scoring system, models developed from customer profiles, and predictions based on the customer profiles (column 42,

line 51 to column 43, line 16). Melchione does not specifically disclose *generating scores for a prospective customer in the database based on the predicted customer profiles wherein the online analytical processing tool determines a sequential order for combining the models and generates the scores by combining the models.* Pham, however, in column 32, lines 24-36 discloses "...the ranking of the output results..." and "Those scored as best may include candidates in several profiles and are not, therefore, a conventional numeric ranking from best to worst." Here Pham shows not only a traditional sequential ranking based on numerical scoring, but also discloses alternative methods or sequential ranking. It would have been obvious to one of ordinary skill in the art at the time of the invention to rank the scores sequentially because "Scoring in data mining gives the comparison between each possible output result and the discrimination level between them" (Pham, column 32, lines 31-33).

Neither Melchione nor Pham specifically disclose:

- *using the online analytical processing tool and the customer demographic data to analyze a combination of the models;*

- *determining a sequential order for combining the models prior to combining the models based on the model combination analysis performed by the online analytical processing tool;*

> • *using the online analytical processing tool to combine the*
>
> *models in the determined sequential order.*

However, Kroenke, on pages 386-392 discuss OLAP tools, and discloses multi-dimensional slices i.e. models, organizing i.e. sequencing, the data according to a specified ranking, and combining the models into various view definitions to derive analytical conclusions. Since OLAP is based on the one-dimensional relational database, sequencing of records based on one or many fields would be obvious to one of ordinary skill in the art. Applying the same sequencing steps to a multi-dimensional OLAP tool would also be obvious to one of ordinary skill in the database arts since ordering and sequencing information in a database to derive specific statistical data is a fundamental function of databases. Applying the same functionality, as shown by Kroenke, to a multidimensional database enhances the power of the relational database. Examples of multiple models within a hyperdimensional database as well as sample code are shown in Figures 14-11 to 14-17 and related text.

Melchione/Pham/Kroenke disclose a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, customer profiles, a scoring system to predict customer activity, and propensity models. Melchione/Pham/Kroenke do not disclose determining *how likely a customer is to default on an account.* Sheppard, however, in column 2, lines 44-51 does discloses the probability of attrition i.e. default. It would have been obvious to one of ordinary skill in the art at the time

of the invention to combine the Melchione/Pham/Kroenke predicting and scoring

system with Sheppard's probability of default to derive the modeling features of

the claimed invention. Inherently, predictive models are constructed to transform

accumulated data in to knowledge models to provide better customer service,

target potential customers, and to forecast changes in the account status of a

current customer. Accurately predicting negative behavior in an existing account

enables the account manager to prepare and possibly avoid detrimental activities

and ensures profitability.

Melchione/Pham/Kroenke disclose a sales process support system and

method for identifying sales targets using a centralized database to improve

marketing success, customer profiles, a scoring system to predict customer

activity, and propensity models. Melchione/Pham/Kroenke do not disclose *a

behavior prediction model to estimate risk*. Sheppard, however, in column 2,

lines 44-51 does discloses predicting customer behavior, profitability and

associated risks. It would have been obvious to one of ordinary skill in the art at

the time of the invention to combine the Melchione/Pham/Kroenke predicting and

scoring system with Sheppard's behavior propensity models derive the prediction

features of the claimed invention. Inherently, predictive models are constructed

to transform accumulated data in to knowledge models to provide better

customer service, target potential customers, and to forecast changes in the

account status of a current customer. Accurately predicting negative behavior in

an existing account enables the account manager to prepare and possibly avoid detrimental activities and ensures profitability by providing a technical advantage.

Melchione/Pham/Kroenke disclose a sales process support system and method for identifying sales targets using a centralized database to improve marketing success, customer profiles, a scoring system to predict customer activity, and propensity models. Melchione/Pham/Kroenke do not disclose *using a client prospecting model for business development*. Sheppard, however, in column 2, lines 28-38 does discloses predicting and identifying customers, and developing profiles based on demographics and behavior. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the Melchione/Pham/Kroenke predicting and scoring system with Sheppard's lead-forecasting models to derive the prediction features of the claimed invention. Inherently, identifying and developing leads is a primary concern when designing a marketing program that specifically targets new business clients and customers based on a demographic.

With regard to the limitation of a *propensity model for supplying predicted answers to questions*, Melchione discloses a banker answering basic questions for a customer. It would have been obvious to one of ordinary skill in the art to combine the Melchione's frequently asked questions with the propensity models of Sheppard because this would provide an efficient automated service for the customer.

Claims 20 and 21:

With regard to the limitations of *using the online analytical processing tool and the customer demographic data further comprises using the online analytical processing tool and the customer demographic data to analyze each combination of the models based on at least one of risk, attrition, and profitability,* Melchione/Pham disclose customer profiles based on a demographic database (column 5, lines 1-2), Kroenke, on pages 386-392 discuss OLAP tools, and discloses multi-dimensional slices i.e. models, organizing i.e. sequencing, the data according to a specified ranking, and combining the models into various view definitions to derive analytical conclusions, and Sheppard discloses propensity models, as shown above. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine Melchione/Pham/Kroenke/ Sheppard because employing the versatility and capacity of an OLAP database allows a user to make various predictions about customer's behavior, potentially increasing profitability.

Conclusion

7.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is

filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **James A. Reagan** whose telephone number is **(703) 306-9131**. The examiner can normally be reached on Monday-Friday, 9:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **James Trammell** can be reached at (703) 305-9768.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 305-3900**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 305-7687   [Official communications; including

After Final communications labeled "Box AF"]

(703) 308-1396   [Informal/Draft   communications,   labeled "PROPOSED" or "DRAFT"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th floor receptionist.

JAR

12 January 2004

JAMES P. TRAMMELL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600